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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,982	03/12/2004	William A. Welsh	67008-075; S-5644	8792

26096 7590 07/14/2005

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EXAMINER

HANAN, DEVIN J

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/799,982

Applicant(s)

WELSH ET AL

Examiner

Devin Hanan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-10, 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-3, 11 and 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                              |                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/12/2004</u> | 6) <input type="checkbox"/> Other: ____                                                |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "62b" has been used to designate both left motor and the right motor in figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities: Paragraph 30 recites in line 2 that the differential assembly is 42a and 43b. Examiner does not see elements 43b and thinks it should be 42b.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by the Applicant's disclosed prior art, the non-patent literature an actively controlled force generator by Mikus et al. (Mikus NPL). No publishing date was given for the prior art, however, based on Applicant's citation of this reference on the information disclosure statement, the examiner assumes the disclosed prior art satisfies the criteria for a 35 USC 102(b) rejection until the applicant provides a publishing date.

Mikus NPL discloses an active vibration control system comprising a first shaft defined along a first axis;

a first gear (figure 1a, gear attached to m4) mounted to said first shaft (7);

a second gear (gear attached to m3) mounted to said first shaft;

a first mass (m3) mounted to said second gear;

a third gear (gear attached to m2) mounted to said first shaft;

a second mass (m2) mounted to said third gear;

a fourth gear (8) engaged with said second gear and a third gear such that the third gear and said second gear counter-rotate; and

a first differential assembly (gear attached to motor #1) engaged with said first gear and said second gear to selectively adjust rotation of said first mass and said second mass relative said first gear to generate a first vibratory force output.

Regarding claim 3, Mikus NPL discloses a differential assembly where the second shaft (shaft of motor #1) is mounted perpendicular to the first shaft (7);

a differential gear (gear on motor #1) mounted to the second shaft, the differential gear engages with the first (gear mounted to m3) and second (gear mounted to m4) gears.

Claims 11 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Strehlow et al. (U.S. Patent 6,480,609).

Strehlow et al. discloses an active vibration control system comprising:

a helicopter transmission (1a);

an engine-to-transmission gearbox (between 1 and 1a) which drives said helicopter transmission; and

a force generator (struts 2,3,4 and 5) mounted to said engine-to-transmission gearbox, said force generator driven by an input shaft rotated by said engine-to-transmission gearbox (piezoelectric actuators use electrical power taken indirectly from the engines).

Regarding claim 14, Strehlow et al. discloses an active vibration control system comprising: a helicopter transmission (1a); and

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a force generator (one of the struts 2,3,4 and 5) mounted to and driven by said helicopter transmission (piezoelectric actuators use electric power taken indirectly from the engines).

Regarding claim 15, Strehlow et al. discloses an active vibration control system as with a second force generator (one of the struts 2,3,4 or 5) mounted to the helicopter transmission, the second force generator driven by an output to a helicopter tail rotor (piezoelectric actuators use electric power taken indirectly from the engines).

Regarding claim 16, Strehlow et al. discloses an engine-to-transmission gearbox which drives said helicopter transmission; and

a second force generator (one of struts 2,3,4 and 5) driven by said engine-to-transmission gearbox (piezoelectric actuators use electric power taken indirectly from the engines).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikus NPL.

Regarding claim 2, Mikus NPL disclosed just one active vibration control system, and does not show two vibration control systems as claimed. Additional active vibration

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control systems do not have any patentable significance. It has been held by the court in *In re Harza* that the duplication of parts has no patentable weight and would have been obvious since it does not create any new or unexpected results (*In re Harza* 274 F.2d 669, 124 USPQ 378 (CCPA 1960)). Thus, it would have been obvious to one having ordinary skill in the art to modify the Mikus NPL system by providing a second vibration control system to provide additional vibration control.

### ***Allowable Subject Matter***

Claims 4-10 and 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Prior Art***

The patent to Welsh (U.S. Patent 6,416,016) was cited for its teaching of an alternate active vibration control system.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devin Hanan whose telephone number is 571-272-6089. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on 571-272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Devin Hanan  
Art Unit 3745  
Patent Examiner

  
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